

# Richmond Automobile News

## SIMPLIFIED LESSONS IN PROPER CARE OF AUTOS

Lubrication System and Its Proper Upkeep of Great Importance to Automobileists.

CLOSE WATCH IS NECESSARY

No Danger Signals Given When System Fails, and Motorist Must Depend Upon Results of Careful Attention—Questions and Answers.

(Copyright, 1918, by Frederick G. Guerlich)

No portion of the engine is more important than the lubrication system, though the engine will run for a short while even though the lubrication system has failed. The very fact, however, that the engine will run, and thus not show the signs of trouble, is not working properly, coupled with the fact that when the engine runs without lubricating some parts of it, as the bearings, will be worn out, and the cylinders become scored, means that it must be the greatest of care.

Loss of power, missing, engine stopping or failing to start, will be a signal to you that something is wrong with the lubrication or carburetor system, or that there is loss of compression, but there is no such signal, except when the harm has already been done, to tell you that the lubrication or the cooling system are not functioning properly. You must know that the latter two are operating, and the only way to know is by watching them.

The illustration shows the course of the oil in what is known as the constant level splash system, a system more than any other. Other systems may vary from this by having an arrangement of the piping so as to have the oil flow direct to the main bearings, while still others have a belt-driven crank shaft, through which the oil flows from the main bearings to the connecting rod bearings. The course of the oil up to the bearings, however, is the same in most cars as that shown in the illustration.

You will note that the oil in the bottom crank case, which acts as the oil reservoir, first passes through the screen, then goes to the pump, from which it is pumped to the sight gauge on the dash, from which it flows by gravity to the main bearings, or direct to the troughs, from which it is splashed about by the movement of the crank shaft, so as to get on to all the parts which require lubrication.

We first encounter the oil in the crank case, or reservoir into which it is poured through the breather tube. Here your only problem is to have the oil at the proper level. Cars are equipped with one of two means to tell this. Some cars have a gauge which will indicate the level of the oil. Some have these gauges by sticking in a rod into the oil and so will indicate that there is more oil in the crank case than there really is. The gauges are practically always actuated by a float, and sometimes these floats will come punctured and partly filled with oil. The result will be that the gauge will indicate that there is too little oil when there is plenty. The writer has seen many cases where people spend considerable money trying to overcome a smoking engine and the using up of too great an amount of oil when the trouble was that they fed the oil too fast, because of being deceived by the gauge.

While many cars are equipped with gauges, as above, others simply have two pet-cocks in the side of the crank case. The oil must never come so low as not to flow out of the bottom of these when it is opened, nor so high as to flow out of the top one.

After the reservoir comes the screen.

The purpose of this is to screen out the dirt. Every particle of dirt which does not go through it will gather on it, and in time so much will have gathered as to prevent the oil passing through. It is out of ten cases when the oil does not circulate properly the screen is at fault. It should be taken out and cleaned at least once in every 10,000 miles, and in the older cars, in which it generally is smaller than in the newer ones, it may be necessary to get at the screen if it is necessary to remove the bottom crank case.

Next after the screen comes the pump.

While parts of this will sometimes break, making it inoperative, it is on the whole a very reliable piece of mechanism.

After the pump comes the pressure gauge, or sight glass, which will be found on the dash. If you have the pressure gauge you should study it and know just what the pressure is for the various car speeds, and should the pressure come lower, instantly search for the cause. It will probably be the screen. If you have the sight glass you should watch the speed of the oil as it passes through it for the various engine speeds, just as the pressure gauge must be watched and you must watch the condition of the oil. When the oil becomes extremely black and looks more like dirty water than oil, the oil in the crank case must be drawn out (there is a plug in the bottom of the crank case for this purpose) and fresh oil substituted for it.

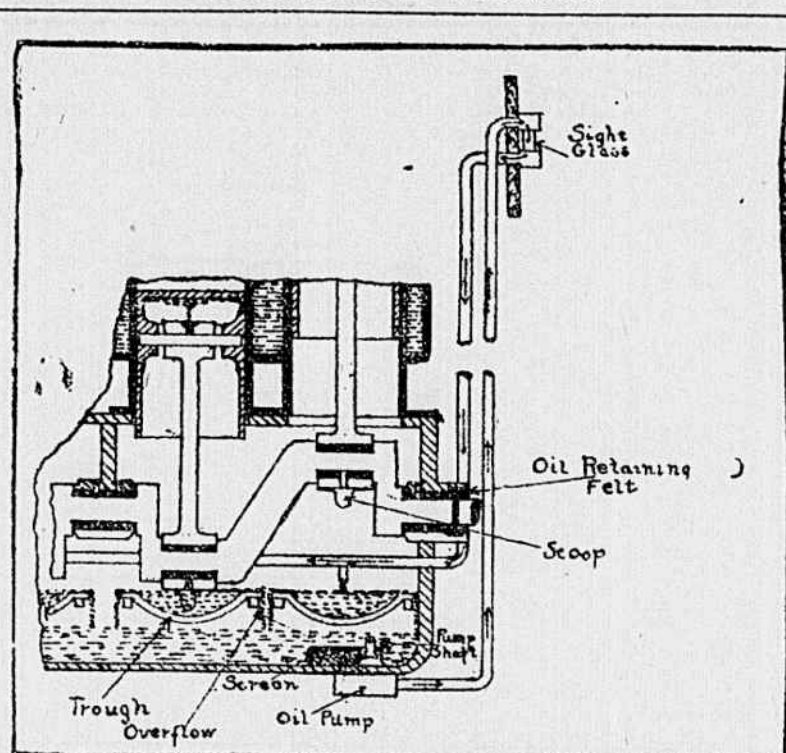
From the sight glass the oil will go to the trough or bearings, as the case may be, and only a stoppered pipe can get it.

In one thing drivers, especially the older ones, are liable to be negligent; that is, in draining the old oil out of the crank case periodically and replenishing it with fresh oil. About every 1,000 miles this should be done. Failure to do so may mean to do no harm but the life of the engine and the power will be greatly reduced. It will be freer of carbon, overheating and knocking if it is done regularly.

A scrub woman or window washer who uses the same water for some time, but eventually the water will become so dirty as to be useless and must be thrown away and fresh water used. The same is true of the oil in your engine. You use the same oil over and over again, and eventually it will become so dirty and thin as to be useless as a lubricant, and must be thrown away.

As to the thickness of the oil to use, no definite instruction can be given here, as there are many features of the design of the engine which will determine whether a heavy, medium or light oil should be used. In this respect you can be guided by your instruction book, or by a pamphlet which you can get

## Lubrication Troubles



from the refiners of the oil you are using. As a rule, a lighter oil should be used during the colder months than during the warm ones.

## QUESTIONS AND ANSWERS

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